

Rule 1133

Composting and Related Operations

(A) General

(1) Purpose

(a) The purpose of this rule is to:

- (i) Limit emissions of volatile organic compounds (VOC) and ammonia from Composting and related operations. *[derived from SCAQMD Rule 1133.2(a)]*
- (ii) Prevent inadvertent decomposition occurring during Chipping and Grinding operations; and *[derived from SCAQMD Rule 1133.1(a)]*
- (iii) Create an emissions-related informational database on Composting and related operations through administrative requirements as part of a Composting registration program; and *[derived from SCAQMD Rule 1133(a)]*

(2) Applicability

- (a) This rule applies to new and existing Chipping and Grinding activities, and Composting and related operations. *[derived from SCAQMD Rule 1133(b), 1133.1(b) and 1133.2(b)]*

(3) Exemptions

- (a) The provisions of section (C)(1) of this rule shall not apply to the following facilities and/or operations: *[derived from SCAQMD Rule 1133(g)]*

- (i) Portable Chipping and Grinding;
- (ii) Agricultural Composting;
- (iii) Nursery Composting;
- (iv) Recreational Facilities Composting;
- (v) Backyard Composting;
- (vi) Woodwaste Chipping and Grinding facilities;
- (vii) Greenwaste derived from the site and used on-site.

- (b) The provisions of sections (C)(2)(b), (C)(2)(c), (C)(2)(d), (C)(2)(e), and (C)(2)(f) of this rule shall not apply to the following: *[derived from SCAQMD Rule 1133.1(f)(2)]*

- (i) Chipping and Grinding activities of Greenwaste derived from the site and used on-site,
- (ii) Portable Chipping and Grinding,

- (iii) Agricultural Chipping and Grinding,
 - (iv) Landclearing Chipping and Grinding,
 - (v) Woodwaste Chipping and Grinding, and
 - (vi) Palm Chipping and Grinding activities.
- (c) The provisions of section (C)(2)(e) of this rule shall not apply to chipped and ground curbside waste provided the moisture content of such waste is less than thirty percent (30%) measured in accordance with section (E)(1) and the moisture content measurements are maintained on-site in accordance with section (C)(2)(f). *[derived from SCAQMD Rule 1133.1(f)(3)]*
- (d) The provisions of section (C)(3) of this rule shall not apply to Composting and Co-Composting Operations with a design capacity of less than 1,000 tons Throughput per year. *[derived from SCAQMD Rule 1133.2 (j)(1)]*

(B) Definitions

For purposes of this rule, the following definitions shall apply:

- (1) Active Compost – Compost Feedstock that is in the process of being rapidly decomposed and is unstable. Active Composting lasts until one of the following conditions is met: *[derived from Title 14 CCR, Division 7, Chapter 3.1, §17852(a)(1), SCAQMD Rule 1133.2(c)(3), SJVAPCD 4565(3.1)]*
- (a) Product respiration rate is above 10 milligrams of oxygen consumed per gram of volatile solids per day as measured by direct respirometry. *[derived from SCAQMD Rule 1133.2(c)(9)]*
 - (b) The organic material emits no more than seven (7) mg carbon dioxide per gram of organic material per day as measured using test method in section (E)(2)(a). *[derived from SJVAPCD 4565 3.1]*
 - (c) The material has a Solvita Maturity Index of five (5) or greater as measured using the test method in section (E)(2)(b). *[derived from SJVAPCD 4565 3.1]*
 - (d) The material has been Composted for a period of at least 22 consecutive days. *[derived from SJVAPCD 4565 3.1]*
- (2) Agricultural Composting – Composting conducted in agricultural settings where the Feedstock consists of wastes generated on-site by the production and processing of farm or agricultural products to be used on-site. *[derived from SCAQMD Rule 1133(c)(1)]*
- (3) Air Pollution Control Officer (APCO) – The person appointed to the position of Air Pollution Control Officer of the District pursuant to the provisions of California Health and Safety Code §40750 and his or her designee. *[Derived from MDAQMD Rule 1301]*

- (4) Backyard Composting – Composting conducted by a household, including but not limited to, single family residences, duplexes or apartment buildings, generated on-site to be used on-site. *[derived from SCAQMD Rule 1133(c)(2)]*
- (5) Best Management Practice – A best management practice is a technique or methodology that, through experience and research, has proven to reliably lead to a desired result. Composting best management practices are Composting parameters that minimize emissions by promoting aerobic Composting conditions. *[derived from Hanaford Farms Best Available Control Technology Determination and SJVUAPCD Rule 4565]*
- (6) Biosolids – Solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Biosolids includes, but is not limited to, treated domestic septage and scum or solids removed in primary, secondary, or advanced wastewater treatment processes. Biosolids does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during the preliminary treatment of domestic sewage in a treatment works. *[derived from Title 14 CCR, Division 7, Chapter 3.1, §17852(a)(9)]*
- (7) Bulking Agent – Additives or amendments mixed with Feedstock in order to adjust the moisture level, carbon to nitrogen ratio, or porosity to create a favorable condition. *[derived from Title 14 CCR, Division 7, Chapter 3.1, §17852(a)(2)]*
- (8) Calendar Days – Any days of the year, excluding official federal and state holidays. *[Derived from SCAQMD Rule 1133.1(c)(2)]*
- (9) California Air Resources Board (CARB) – The California State Air Resources Board the powers and duties of which are described in Part 2 of Division 26 of the California Health & Safety Code (commencing with section 39500). *[derived from MDAQMD Rule 1165]*
- (10) California Integrated Waste Management Board (CIWMB) – The California Integrated Waste Management Board the powers and duties of which are primarily described in Chapter 3 of Part 1 of Division 30 of the California Public Resources Code. (commencing with section 40400).
- (11) Chipping and Grinding – Activity that mechanically reduces the size of Greenwaste, Woodwaste, and/or Foodwaste. *[derived from SCAQMD Rule 1133(c)(3)]*
- (12) Compost – The product resulting from the controlled biological decomposition of biological materials. *[Derived from SCAQMD Rule 1133.2(c)(7)]*
- (13) Composting – Process in which solid organic waste materials are decomposed in the presence of oxygen under controlled conditions through the action of bacteria and other microorganisms. *[Derived from SCAQMD Rule 1133.2(c)(8)]*

- (14) Compostable Material – Any organic material that when accumulated will become Active Compost as defined in section (B)(1). *[derived from Title 14 CCR, Division 7, Chapter 3.1, §17852(a)(11)]*
- (15) Composting Operations – Facilities involved in Composting organic materials including, but not limited to, Greenwaste, Biosolids, Manure and Foodwaste. *[derived from SCAQMD Rule 1133(c)(7)]*
- (16) Co-Composting – Composting where Biosolids and/or Manure are mixed with Bulking Agents to produce Compost. Co-Composting involves both the active and curing phase. *[derived from SCAQMD Rule 1133.2(c)(6)]*
- (17) Curbside Greenwaste – Greenwaste that is collected from receptacles designated for residential household Greenwaste. Curbside Greenwaste also includes screened Curbside Greenwaste containing only grass clippings, leaves, and/or twigs that is not considered Greenwaste in (B)(24). *[derived from SCAQMD Rule 1133.1(c)(5)]*
- (18) Curing Compost – The phase of the Co-Composting process that begins immediately after the end of the active phase of Composting. Curing Composting lasts until one of the following conditions is met:
 - (a) Product respiration rate is below 10 milligrams of oxygen consumed per gram of volatile solids per day as measured by direct respirometry. *[derived from SCAQMD Rule 1133.2(c)(9)]*
 - (b) Emits no more than four (4) mg CO₂-C per gram of organic material per day, as measured using the test method in section (E)(2)(a). *[derived from SJVUAPCD Rule 4565 3.21]*
 - (c) The Compost has a Solvita Maturity Index of 7 or greater, as measured using the test method in section (E)(2)(b); or *[derived from SJVAPCD Rule 4565(3.17.2)]*
 - (d) The material has been Composted at least 40 consecutive Calendar Days after the Active Composting phase. *[derived from SJVAPCD Rule 4565(3.17.3)]*
- (19) District – The Mojave Desert Air Quality Management District, the geographical area of which is described in District Rule 103. *[derived from MDAQMD Rule 103]*
- (20) Facility – A portion of real property that is on one or more contiguous or adjacent properties, all of which are under common ownership or control. *[derived from SJVUAPCD Rule 4565 3.20]*
- (21) Feedstock – Any Compostable organic material used in the production of Compost or chipped and ground material including, but not limited to, agricultural material, Greenwaste, Foodwaste, Biosolids, and mixed solid waste. Feedstocks

shall not be considered as Bulking Agents. *[derived from Title 14 CCR, Division 7, Chapter 3.1, §17852(a)(19)]*

- (22) Finished Compost – A humus-like material that meets at least one of the following conditions: *[derived from SJVUAPCD Rule 4565 3.21]*
 - (a) Emits no more than four (4) mg CO₂-C per gram of organic material per day, as measured using the test method in section (E)(2)(a).
 - (b) Has a Solvita Maturity Index of 7 or greater, as measured using the test method in section (E)(2)(b).
 - (c) Has completed both the active and curing phases of Composting.
- (23) Foodwaste – Any food scraps collected from the food service industry, grocery stores, or residential food scrap collection. Foodwaste mixed with Greenwaste is considered Foodwaste. *[derived from SCAQMD Rule 1133(c)(8)]*
- (24) Greenwaste – Organic waste material generated from gardening, agriculture, or landscaping activities including, but not limited to, grass clippings, leaves, tree and shrub trimmings, and plant remains. *[derived from SCAQMD Rule 1133(c)(9)]*
- (25) Local Enforcement Agency (LEA) – The local agency designated as the enforcement agency by the CIWMB pursuant to Article 1 of Chapter 2 of Part 4 of Division 30 of the California Public Resources Code (commencing with section 43200).
- (26) Manure – Accumulated herbivore or avian excrement which includes feces, urine, any bedding material, spilled feed, or soil that is mixed with feces or urine. *[derived from Title 14 CCR, Division 7, Chapter 3.1, §17852(a)(25)]*
- (27) Mixed Greenwaste – Curbside Greenwaste that is mixed with Non-Curbside Greenwaste. *[derived from SCAQMD Rule 1133.1(c)(10)]*
- (28) Non-Curbside Greenwaste – Greenwaste that is not collected from receptacles designed for residential household Greenwaste. Curbside Greenwaste or Mixed Greenwaste that is screened and contains only large woody material (larger than 3 inches in any dimension) such as tree trimmings and branches is also considered to be Non-Curbside Greenwaste. *[derived from SCAQMD Rule 1133.1(c)(11)]*
- (29) Nursery Composting – Composting conducted at a nursery using Feedstock generated on-site to produce Compost for on-site use. *[derived from SCAQMD Rule 1133(c)(10)]*
- (30) Operator – Any person who owns, leases, supervises, or operates a Facility that processes Compost or Co-Compost, or equipment on such a Facility. *[derived from SJVUAPCD Rule 4565 3.28]*

- (31) Palm Chipping and Grinding – Any activity that mechanically reduces the size of palm tree waste. *[derived from SCAQMD Rule 1133.1(c)(12)]*
- (32) Portable Chipping and Grinding Operation – Chipping and Grinding equipment operating under a state or local portable permit or otherwise exempt from permitting.
- (33) Pile – Compost material that is heaped together. *[derived from SJVUAPCD Rule 4565 3.30]*
- (34) Rainy Day – Any day with at least 0.05 inches of rain reported by the National Weather Service or a cooperative weather reporting station for the site closest to where the Chipping and Grinding activity occurs. *[derived from SCAQMD Rule 1133.1(c)(14)]*
- (35) Recreational Facilities Composting – Composting conducted at parks, arboretums and other recreational facilities using Feedstock generated on-site to produce Compost for on-site use. *[derived from SCAQMD Rule 1133(c)(16)]*
- (36) Solvita Maturity Index – An index that defines the stage where Compost exhibits resistance to further decompositions, as tested by the Solvita Maturity Test. *[derived from SCAQMD Rule 1133.2(c)(10)]*
- (37) Throughput – The mass of Biosolids, Manure, or Greenwaste in tons per year as received by the Facility and processed through Composting excluding recycled materials. *[derived from SCAQMD Rule 1133.2(c)(18)]*
- (38) Tipping Fees – Money or other financial benefits received by a Facility, owner, or Operator in exchange for the Facility, owner, or Operator accepting Greenwaste, Biosolids, animal Manure, or poultry litter. *[derived from SJVUAPCD Rule 4565 3.34]*
- (39) TMECC – Test Methods for the Examination of Compost and Composting by the US Composting Council Research and Education Foundation. *[derived from SJVUAPCD Rule 4565 3.35]*
- (40) United States Environmental Protection Agency (USEPA) – Refers to the Administrator or the appropriate designee of the United States Environmental Protection Agency. *[derived from MDAQMD Rule 1201]*
- (41) Volatile Organic Compound (VOC) – Any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions and those compounds listed in 40 CFR 51.100(s)(1). *[derived from MDAQMD Rule 1162(b)(48)]*
- (42) Wet Weather Conditions – Weather conditions following a Rainy Day not to exceed 10 days. *[derived from SCAQMD Rule 1133.1(c)(15)]*

- (43) Woodwaste – Lumber and the woody material portion of mixed demolition wastes and mixed construction wastes. *[derived from SCAQMD Rule 1133(c)(13)]*

(C) Requirements

- (1) General Administrative Requirements: *[derived from SCAQMD Rule 1133(d)]*

- (a) Any person engaged in Chipping and Grinding and Composting Operations shall:
- (i) No later than 60 days after rule adoption, Operators of any existing Chipping and Grinding activities and Composting Operations shall register with the District by submitting complete and applicable information required in accordance with section (C)(1)(b) of this rule.
 - (ii) Prior to start of operation, Operators of new Chipping and Grinding activities and Composting Operations shall register with the District by submitting complete and applicable information required in accordance with section (C)(1)(b) of this rule.
 - (iii) No later than July 1 of every year thereafter, Operators of Chipping and Grinding activities and Composting Operations registered with the District shall update their registration information by providing any changes to the information submitted in accordance with section (C)(1)(b) of this rule.
- (b) The registration and annual update shall at a minimum include the following information:
- (i) Facility name;
 - (ii) Facility location address and mailing address;
 - (iii) Facility legal owner(s), contact person, title, telephone number, and mailing address;
 - (iv) Facility Operator(s), contact person, title, telephone number, and mailing address;
 - (v) Number of employees at the Facility;
 - (vi) Applicable California Integrated Waste Management Board's permit number;
 - (vii) Type and amount of materials received and type and amount of products produced for the preceding year;
 - (viii) Facility design capacity (Throughput) in tons per year;
 - (ix) Facility actual Throughput in tons per month for the preceding calendar year. For new facilities, projected Throughput must be provided;
 - (x) Feedstock description;
 - (xi) Facility process description including, process diagram and a description of Chipping and Grinding operations and Compost methods used (if applicable);

- (xii) Published tipping fee schedule for the preceding calendar year by Feedstock; and
- (xiii) Number of air-quality related enforcement actions issued in writing against the Facility by the Local Enforcement Agency and the California Integrated Waste Management Board for the preceding year.

(2) Chipping and Grinding Operation Requirements:

- (a) Any person engaged in a chipping or grinding activity shall:
 - (i) Remove Foodwaste from the site or use Foodwaste for on-site Composting within two Calendar Days of receipt. *[Derived from SCAQMD Rule 1133.1(d)(1)]*
 - (ii) Chip or grind, or use on-site, or remove Curbside Greenwaste from the site within three Calendar Days. *[Derived from SCAQMD Rule 1133.1(d)(2)]*
 - (iii) Chip or grind, or remove Non-Curbside Greenwaste from the site within 14 Calendar Days of receipt. *[Derived from SCAQMD Rule 1133.1(d)(3)]*
 - (iv) Chip or grind, or use on-site, or remove Mixed Greenwaste from the site within seven Calendar Days of receipt. *[Derived from SCAQMD Rule 1133.1(d)(4)]*
 - (v) Remove chipped or ground Curbside Greenwaste from the site or use chipped or ground Curbside Greenwaste on-site within three Calendar Days of being chipped and ground. *[Derived from SCAQMD Rule 1133.1(d)(5)]*
- (b) Any person engaged in a chipping or grinding activity shall maintain the following records: *[Derived from SCAQMD Rule 1133.1(d)(6)]*
 - (i) A copy of the Facility's District registration and annual updates submitted in compliance with section (C)(1).
 - (ii) Records of date, type, and amount of Greenwaste and/or Foodwaste received; and
 - (iii) Records of date, type, and amount of Greenwaste and or Foodwaste removed from the site, and location where they were transferred to.
 - (iv) Records of dates of Rainy Days and Wet Weather Conditions and description of specific conditions that limited normal operations.
 - (v) Records of moisture content measurements as determined in section (E)(1).
 - (vi) Records of dates and amount of Curbside Greenwaste chipped and ground.
- (c) The time requirements in sections may be extended by the number of Rainy Days and Wet Weather Conditions that impede normal Chipping and Grinding operations providing that records are maintained in

accordance with section (C)(2)(f). *[Derived from SCAQMD Rule 1133.1(d)(7)]*

- (3) Composting and Co-Composting Operations General Process Controls (Best Management Practices) Requirements:
- (a) Any person engaged in Composting or Co-Composting operations shall:
- (i) Scrape or sweep, at least once a day, all areas where Compostable Material is mixed, screened, or stored such that no Compostable Material greater than one inch (1") in height is visible in the areas scraped or swept immediately after scraping or sweeping, except for Compostable Material in process Piles or storage Piles; and *[derived from SJVUAPCD Rule 4565 Table 2]*
 - (ii) Establish initial carbon to nitrogen ratio of not less than 20:1 in Active Compost Piles by testing the material when it is prepared for Active Composting using the test method in section (E)(3)(c). Testing shall be done on the day the materials are mixed and be representative of the initial composition of each new Active Compost Pile; and *[derived from SCAQMD Technology Assessment for proposed Rule 1133, March 22, 2002(upper limit) and SJVUAPCD Rule 4565 Table 2(lower limit)]*
 - (iii) Maintain moisture content between 40 percent to 70 percent and test daily in Active Piles and monthly in Curing Piles, or Cover Active and Curing Piles within three hours of turning with one of the following: *[derived from SJVUAPCD Rule 4565 Table 2]*
 - a. A waterproof covering; or
 - b. At least six inches (6") of Finished Compost; or
 - c. At least six inches (6") of soil.
 - (iv) Maintain pH below 8.0 and test monthly in active and curing Piles; and *[derived from SCAQMD Technology Assessment for proposed Rule 1133, March 22, 2002]*
 - (v) Adequately mix incoming Feedstock so that moisture and nutrients are maintained in proper proportions in all parts of the Composting Piles. *[derived from Technical Support Document Little Hanaford Farms , Southwest Clean Air Agency, pg. 8]*
- (b) Maintain daily records of materials receipt, discharge, and operational activities sufficient to verify the requirements of (C)(3)(a), and on a daily basis, the operator shall record the quantity of materials received that would be used for the Compost or Co-Compost operation. These materials include, but are not limited to, material that may be recovered from the composting process for re-use in another batch of Compostable Material, Biosolids, Manure, and Greenwaste. *[derived from SJVUAPCD Rule 4565 6.1.4.1]*
- (c) If a tested parameter is found to be outside applicable limits specified in section (C)(3)(a)(ii), (C)(3)(a)(iii), or (C)(3)(a)(iv), the Operator shall take

remedial action within 24 hours of discovery to bring Pile characteristics within the specified limits. *[derived from SJVUAPCD Rule 4565 5.3.6]*

(4) Contingency Measure

- (a) The requirements of this section only apply if USEPA makes a finding, as evidenced by publication in the Federal Register, that the District (or portion thereof) has been designated as a non-attainment area for the PM_{2.5} National Ambient Air Quality Standard.
- (b) Any Composting operation accepting more than 100,000 wet tons of Compostable Material shall be contained within a completely walled, floored, and roofed structure or vessel venting to add-on control technology with a minimum 80 percent (by weight) destruction efficiency for VOC and ammonia. *[derived from MDAQMD Technical Report, H & S Code §39614 Feasibility Analysis for Composting and Related Operations, Staff Recommendation]*

(D) Monitoring and Records

- (1) The operator shall, at a minimum, maintain operations records for a period of at least two years, or five years for facilities subject to Title V permit requirements, and make them available to the APCO upon request. *[Derived from SCAQMD Rule 1133.2(h)]*

(E) Compliance Procedures and Test Methods

- (1) Measurements of Piles and Windrows shall be determined by collecting at least 10 samples from various locations of the Pile or Windrow at a depth of at least 12 inches below the Pile or Windrow surface.
- (2) Samples shall be mixed thoroughly and analyzed for moisture content by ASTM method D4442, ASTM method D4444, or ASTM method E871-82. *[Derived from SCAQMD Rule 1133.1(e)]*
- (3) Compost Maturity/Stability Test Methods *[derived from SJVUAPCD Rule 4565 6.2.1]*
 - (a) TMECC Method 05-08-B (Carbon Dioxide Evolution Rate); or
 - (b) TMECC Method 05-08 E (Solvita Maturity Test[®])
- (4) Best Management Practices Test Methods *[derived from SJVUAPCD Rule 4565 6.2.2]*
 - (a) Oxygen Concentration – TMECC Method 05.08-C (In-Situ Oxygen Refresh Rate)

- (b) Moisture Content – TMECC Method 03.09-A (Total Solids and Moisture at 70±5 degrees Centigrade)
 - (c) Carbon to Nitrogen Ratio – TMECC Method 05.02-A (Carbon to Nitrogen Ratio)
 - (d) pH – TMECC Method 04.11-A
- (5) Contingency Measure Test Methods
 - (a) VOC – USEPA Method 18 and USEPA Method 25, or equivalent.
 - (b) Ammonia – South Coast Air Quality Management District Method 207.1 – Determination of Ammonia Emissions from Stationary Sources, or equivalent.
- (6) Alternative Compliance Methods
 - (1) Other test methods demonstrated to provide results that are acceptable for purposes of determining compliance with any provisions of this rule may also be used after review and approval in writing by the APCO and CARB. *[derived from MDAQMD Rule 1165]*

(F) Violations

- (1) Failure to comply with any provision of this Rule shall constitute a violation of the Rule.
- (2) A violation of the limits contained in this Rule as determined by any one of these test methods shall constitute a violation of this Rule.
- (3) When more than one test method or set of test methods are specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of the rule.